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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,456	09/14/2005	Takashi Ihara	1912.73687	5505
24978 7590 06/05/2008 GREER, BURNS & CRAIN 300 S WACKER DR			EXAMINER	
			NGUYEN, DUC M	
25TH FLOOR CHICAGO, II			ART UNIT	PAPER NUMBER
			2618	
			MAIL DATE	DELIVERY MODE
			06/05/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Application No. Applicant(s) 10/549 456 IHARA, TAKASHI Office Action Summary Examiner Art Unit DUC M. NGUYEN 2618 -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS. WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). Status Responsive to communication(s) filed on 2a) This action is FINAL. 2b) This action is non-final. 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 1-24 is/are pending in the application. 4a) Of the above claim(s) _____ is/are withdrawn from consideration. 5) Claim(s) _____ is/are allowed. 6) Claim(s) 1-24 is/are rejected. 7) Claim(s) _____ is/are objected to. 8) Claim(s) _____ are subject to restriction and/or election requirement. Application Papers 9) The specification is objected to by the Examiner. 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abevance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152. Priority under 35 U.S.C. § 119 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received.

1) Notice of References Cited (PTO-892)

Paper No(s)/Mail Date 9/14/05, 9/14/06.

Notice of Draftsperson's Patent Drawing Review (PTO-948)
 Notice of Draftsperson's Patent Drawing Review (PTO-948)
 Notice of Draftsperson's Patent Drawing Review (PTO-948)

Attachment(s)

Interview Summary (PTO-413)
 Paper No(s)/Mail Date.

6) Other:

5) Notice of Informal Patent Application

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DETAILED ACTION

Information Disclosure Statement

 The references listed in the information disclosure statements submitted on 9/14/05 and 9/14/06 have been considered by the examiner (see attached PTO-1449).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

 Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 17 recites the limitation "a radio-controlled timepiece" in line 1 of the claim.

There is insufficient antecedent basis for this limitation in the claim.

Suggestion: the claim should depend on claim 15, not 14.

Claim Rejections - 35 USC 103

- The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having

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ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-2, (5-14)/(1-2) are rejected under 35 U.S.C. 103(a) as being unpatentable by Kianush (US 2001/0036811).

Regarding claim 1, Kianush discloses a tuning circuit comprising:

a semiconductor substrate, which comprises a plurality of semiconductor switches, a plurality of first capacitors, connected each in series with said plurality of semiconductor switches (see Fig. 3 regarding capacitors C1- Cn and switches S1-Sn and [0031]), and

switch controlling means for controlling opening and closing of the semiconductor switches(see Fig. 3 regarding switch controls X1-Xn); and

a coil connected in parallel to said plurality of first capacitors, wherein the total electrostatic capacitance of said plurality of first capacitors is varied by said switching controlling means individually controlling said opening and closing said plurality of semiconductor switches connected to said plurality of first capacitors, in accordance with a received station selection signal of a standard radio wave that includes time information, so as to vary a tuned frequency of a tuning circuit formed by said plurality of first capacitors and said coil (see Fig. 3 and [0022-0027]. Here, although Kianush is silent with a standard radio wave that includes time information, one skilled in the art would recognize that the AM receiver in Kianush would be able to receive AM standard radio waves that includes time information and would work equally well, noting that it

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has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations *Ex parte Masham* 2 USPQ2d 1647 1987).

Therefore, the claimed limitations are made obvious by Kianush.

Regarding claim 2, Kianush would teach a tuning circuit according to claim 1, further comprising, either on said semiconductor substrate or outside said semiconductor substrate, a second capacitor, which has either a fixed capacitance or a variable capacitance, and which is connected to said coil in parallel with said group of first capacitors (see Fig. 3, regarding the fixed capacitor C0 and [0023]).

Regarding claim 5, the claim is rejected for the same reason as set forth in claims 1-2 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing a tuning circuit which is used, including an antenna, within a metal exterior part made of a metallic material (i.e, a housing) as claimed, for protecting the tuning circuit.

Regarding claim 6, the claim is rejected for the same reason as set forth in claims 1-2 above. In addition, since one skilled in the art would recognize that the ON switch would have a very small resistance, Kianush would obviously teach a tuning circuit wherein an on resistance of each of said semiconductor switches is smaller than an impedance of each of said first capacitors connected in series with each said semiconductor switch as claimed.

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Regarding claim 7, the claim is rejected for the same reason as set forth in claims 1-2 above. In addition, since one skilled in the art would recognize that the OFF switch would have a very large resistance, Kianush would obviously teach a tuning circuit, wherein an off resistance of each of said semiconductor switches is larger than an impedance of each of said first capacitors connected in series with each said semiconductor switch as claimed.

Regarding claim 8, the claim is rejected for the same reason as set forth in claims 1-2 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing a resistance value of a resistance part used in an amplifier circuit connected to a receiving circuit is set so as to be larger than an impedance of a tuning capacitor provided in said tuning circuit for further improving the antenna gain (i.e., noise matching).

Regarding claim **9**, the claim is rejected for the same reason as set forth in claims 1-2 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing a resistance value of a resistance part used in an amplifier circuit connected to a receiving circuit is set so as to be larger than an impedance of a capacitor connected in series with said resistance part used in said amplifier circuit for further improving the antenna gain (i.e., noise matching).

Regarding claim 10, the claim is rejected for the same reason as set forth in claims 1-2 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing a tuning circuit wherein the total value of individual electrostatic capacitances of each of said plurality of first

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capacitors is 9600 pF or lower in order to tune the receiver to FCC regulated frequency bands of radio stations, noting that it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 11, the claim is rejected for the same reason as set forth in claims 1-2 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing **Kianush** as modified would obviously teach an inductance value of said coil is 0.44 mH or greater in order to tune the receiver to the minimum FCC regulated frequency bands of radio stations, noting that it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Regarding claim 12, the claim is rejected for the same reason as set forth in claims 1-2 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing **Kianush** as modified would obviously teach an inductance value of said coil is 4000 mH or smaller in order to tune the receiver to the maximum FCC regulated frequency bands of radio stations, noting that it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Allier*, 105 USPQ 233.

Regarding claim 13, the claim is rejected for the same reason as set forth in claim 2 above. In addition, **Kianush** as modified would obviously teach a tuned

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frequency in said tuning circuit is determined by a first electrostatic capacitance set by a group of said first capacitors and a second electrostatic capacitance of said second capacitor (see [0023-0027]).

Regarding claim 14, the claim is rejected for the same reason as set forth in claims 1-2 above. In addition, **Kianush** as modified would obviously teach a tuning circuit, wherein said electrostatic capacitance of said second capacitor is larger than that of said first capacitor (see [0023-0027]).

 Claims (15-24)/(1-2) are rejected under 35 U.S.C. 103(a) as being unpatentable by Kianush (US 2001/0036811) in view of Tadashi (JP 2002-82187).

Regarding claim 15, the claim is rejected for the same reason as set forth in claims 1-2 above. In addition, since utilizing an radio receiver as a radio-controlled timepiece is well known in the art as disclosed by **Tadashi** (see Abstract), and since one skilled in the art would recognize that the tuning circuit in Kianush would applicable to the tuning circuit of the radio-controlled timepiece and would work equally well, it would have been obvious to one skilled in the art at the time the invention was made to modify Kianush for providing the AM receiver as a radio-controlled timepiece as well, noting that it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations *Ex parte Masham* 2 USPQ2d 1647 1987).

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Therefore, **Kianush** as modified for a radio-controlled timepiece would teach a radio-controlled timepiece comprising a tuning circuit and a control means, which controls said tuning circuit, and which has a receiving circuit, which inputs a standard radio wave received by said tuning circuit and performs time correction; and a display means, which displays time information from said control means (see Tadashi, Abstract, Fig. 1), in order to display the corrected current time information to the user.

Regarding claim 16, the claim is rejected for the same reason as set forth in claim 15 above. In addition, **Kianush** as modified would obviously teach a radio-controlled timepiece further comprising a metal exterior part made of a metallic material (i.e, a housing like a wrist-watch), which covers said tuning circuit, said control means, and said display means so as to protect them mechanically.

Regarding claim 17, the claim is rejected for the same reason as set forth in claim 15 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing a radio-controlled timepiece, wherein an inductance of said coil of said tuning circuit covered by said metal exterior part is 20 mH or greater in order to tune the receiver to the FCC regulated frequency bands of radio stations, noting that it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 18, the claim is rejected for the same reason as set forth in claim 15 above. In addition, **Kianush** as modified would obviously teach a radio-controlled timepiece wherein, by controlling the opening and closing of said plurality of

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semiconductor switches of said tuning circuit so as to vary said tuned frequency, it is possible to selectively receive any of a plurality of standard radio waves (see Fig. 3).

Regarding claim 19, the claim is rejected for the same reason as set forth in claim 15 above. In addition, **Kianush** as modified would obviously teach a radio-controlled timepiece further comprising a tuning control information storage means for storing tuning control information for the purpose of varying said tuned frequency of said tuning circuit (see [0020]).

Regarding claim 20, the claim is rejected for the same reason as set forth in claim 19 above. In addition, **Kianush** as modified would obviously teach a controlled timepiece wherein said tuning control information storage means is provided within said tuning circuit.

Regarding claim 21, the claim is rejected for the same reason as set forth in claim 19 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing a radio-controlled timepiece wherein said tuning control information storage means is formed by one selected from the group consisting of a pattern-cutting means, a fuse ROM, and a nonvolatile memory, in order to store tuned parameters for the tuning circuit.

Regarding claim 22, the claim is rejected for the same reason as set forth in claim 15 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing a radio-controlled timepiece comprising a test mode, whereby it is possible to change a tuned frequency

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by an external operating means provided outside said radio-controlled timepiece, in order to provide a quality control the timepiece (i.e., detect imperfects/defections).

Regarding claims 23-24, the claims are rejected for the same reason as set forth in claim 22 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing said external operating means includes a non-contact operating method such as radio or infrared, for utilizing advantage of wireless features such as eliminating a cable connector.

 Claims 3, (5-14)/3 are rejected under 35 U.S.C. 103(a) as being unpatentable by Kianush (US 2001/0036811) in view of Grove (US 6,549,096).

Regarding claim 3, since **Kianush** teaches that the inductance L and the fixed capacitor C0 define the highest resonance frequency (see [0023]), it would have been obvious that in order to change the highest resonance frequency, the value of the fixed capacitor would be changed. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for utilizing a variable capacitor in place of the fixed capacitor so that the highest resonance frequency would be changeable as desired for flexibility purpose, in the similar way as disclosed by **Groves** (see Fig. 1), thereby providing a second capacitor that is subjected to control that differs from the control to which said first capacitors are subjected, for utilizing advantages/benefits of a variable capacitor such as providing the receiver with a flexible capability purpose (i.e, wide range tuning).

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Regarding claim 5, the claim is rejected for the same reason as set forth in claim 3 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing a tuning circuit which is used, including an antenna, within a metal exterior part made of a metallic material (i.e, a housing) as claimed, for protecting the tuning circuit.

Regarding claim 6, the claim is rejected for the same reason as set forth in claim 3 above. In addition, since one skilled in the art would recognize that the ON switch would have a very small resistance, Kianush would obviously teach a tuning circuit wherein an on resistance of each of said semiconductor switches is smaller than an impedance of each of said first capacitors connected in series with each said semiconductor switch as claimed.

Regarding claim 7, the claim is rejected for the same reason as set forth in claim 3 above. In addition, since one skilled in the art would recognize that the OFF switch would have a very large resistance, Kianush would obviously teach a tuning circuit, wherein an off resistance of each of said semiconductor switches is larger than an impedance of each of said first capacitors connected in series with each said semiconductor switch as claimed.

Regarding claim 8, the claim is rejected for the same reason as set forth in claim 3 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing a resistance value of a resistance part used in an amplifier circuit connected to a receiving circuit is set so as to be larger

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than an impedance of a tuning capacitor provided in said tuning circuit for further improving the antenna gain (i.e, noise matching).

Regarding claim 9, the claim is rejected for the same reason as set forth in claim 3 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing a resistance value of a resistance part used in an amplifier circuit connected to a receiving circuit is set so as to be larger than an impedance of a capacitor connected in series with said resistance part used in said amplifier circuit for further improving the antenna gain (i.e., noise matching).

Regarding claim 10, the claim is rejected for the same reason as set forth in claim 3 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing a tuning circuit wherein the total value of individual electrostatic capacitances of each of said plurality of first capacitors is 9600 pF or lower in order to tune the receiver to FCC regulated frequency bands of radio stations, noting that it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 11, the claim is rejected for the same reason as set forth in claim 3 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing **Kianush** as modified would obviously teach an inductance value of said coil is 0.44 mH or greater in order to tune the receiver to the minimum FCC regulated frequency bands of radio stations, noting that it has been held that where the general conditions of a claim are disclosed in

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the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 12, the claim is rejected for the same reason as set forth in claim 3 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing **Kianush** as modified would obviously teach an inductance value of said coil is 4000 mH or smaller in order to tune the receiver to the maximum FCC regulated frequency bands of radio stations, noting that it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 13, the claim is rejected for the same reason as set forth in claim 3 above. In addition, **Kianush** as modified would obviously teach a tuned frequency in said tuning circuit is determined by a first electrostatic capacitance set by a group of said first capacitors and a second electrostatic capacitance of said second capacitor (see [0023-0027]).

Regarding claim 14, the claim is rejected for the same reason as set forth in claim 3 above. In addition, **Kianush** as modified would obviously teach a tuning circuit, wherein said electrostatic capacitance of said second capacitor is larger than that of said first capacitor (see [0023-0027]).

 Claims (15-24)/3 are rejected under 35 U.S.C. 103(a) as being unpatentable by Kianush in view of Grove and further in view of Tadashi (JP 2002-82187).

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Regarding claim 15, the claim is rejected for the same reason as set forth in claim 3 above. In addition, since utilizing an radio receiver as a radio-controlled timepiece is well known in the art as disclosed by **Tadashi** (see Abstract), and since one skilled in the art would recognize that the tuning circuit in Kianush would applicable to the tuning circuit of the radio-controlled timepiece and would work equally well, it would have been obvious to one skilled in the art at the time the invention was made to modify Kianush for providing the AM receiver as a radio-controlled timepiece as well, noting that it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations *Ex parte Masham* 2 USPQ2d 1647 1987).

Therefore, **Kianush** as modified for a radio-controlled timepiece would teach a radio-controlled timepiece comprising a tuning circuit and a control means, which controls said tuning circuit, and which has a receiving circuit, which inputs a standard radio wave received by said tuning circuit and performs time correction; and a display means, which displays time information from said control means (see Tadashi, Abstract, Fig. 1), in order to display the corrected current time information to the user.

Regarding claim 16, the claim is rejected for the same reason as set forth in claim 15 above. In addition, **Kianush** as modified would obviously teach a radio-controlled timepiece further comprising a metal exterior part made of a metallic material (i.e, a housing like a wrist-watch), which covers said tuning circuit, said control means, and said display means so as to protect them mechanically.

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Regarding claim 17, the claim is rejected for the same reason as set forth in claim 15 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing a radio-controlled timepiece, wherein an inductance of said coil of said tuning circuit covered by said metal exterior part is 20 mH or greater in order to tune the receiver to the FCC regulated frequency bands of radio stations, noting that it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 18, the claim is rejected for the same reason as set forth in claim 15 above. In addition, **Kianush** as modified would obviously teach a radio-controlled timepiece wherein, by controlling the opening and closing of said plurality of semiconductor switches of said tuning circuit so as to vary said tuned frequency, it is possible to selectively receive any of a plurality of standard radio waves (see Fig. 3).

Regarding claim 19, the claim is rejected for the same reason as set forth in claim 15 above. In addition, **Kianush** as modified would obviously teach a radio-controlled timepiece further comprising a tuning control information storage means for storing tuning control information for the purpose of varying said tuned frequency of said tuning circuit (see [0020]).

Regarding claim 20, the claim is rejected for the same reason as set forth in claim 19 above. In addition, **Kianush** as modified would obviously teach a controlled timepiece wherein said tuning control information storage means is provided within said tuning circuit.

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Regarding claim 21, the claim is rejected for the same reason as set forth in claim 19 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing a radio-controlled timepiece wherein said tuning control information storage means is formed by one selected from the group consisting of a pattern-cutting means, a fuse ROM, and a non-volatile memory, in order to store tuned parameters for the tuning circuit.

Regarding claim 22, the claim is rejected for the same reason as set forth in claim 15 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing a radio-controlled timepiece comprising a test mode, whereby it is possible to change a tuned frequency by an external operating means provided outside said radio-controlled timepiece, in order to provide a quality control the timepiece (i.e., detect imperfects/defections).

Regarding claims 23-24, the claims are rejected for the same reason as set forth in claim 22 above. In addition, it would have been obvious to one skilled in the art at the time the invention was made to modify **Kianush** for providing said external operating means includes a non-contact operating method such as radio or infrared, for utilizing advantage of wireless features such as eliminating a cable connector.

 Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable by Kianush in view of Grove and further in view of Clark (US 6,181,218).

Regarding claim 4, Kianush as modified in claim 3 would teach a variable capacitor. Since Kianush teaches the advantages of using switched capacitors over a

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variable capacitor (see [0012, 0028]), it would have been obvious that **Kianush** would also utilize switched capacitors for the variable capacitor. By doing so, **Kianush** as modified would teach two set of switched capacitors in the similar way as disclosed by **Clark** (see Fig. 5), thereby providing at least one of said second capacitances is controlled by said switch controlling means via said semiconductor switch provided on said semiconductor substrate as claimed, in order to change the highest resonance frequency to a desired value.

Conclusion

 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See the attached PTO-892.

11. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(571) 273-8300 (for formal communications intended for entry)

(571)-273-7893 (for informal or draft communications).

Hand-delivered responses should be brought to Customer Service Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

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Any inquiry concerning this communication or communications from the examiner should be directed to Duc M. Nguyen whose telephone number is (571) 272-7893,

Monday-Thursday (9:00 AM - 5:00 PM).

Or to Nay Muang (Supervisor) whose telephone number is (571) 272-7882.

/Duc M. Nguyen/

Primary Examiner, Art Unit 2618

May 30, 2008